

used. Notwithstanding these provisions, response stations operating with an EIRP no greater than –6 dBW per 6 MHz channel may utilize omnidirectional transmitting antennas.

(c) The use of elevated receiving antennas is preferable to the use of elevated transmitting antennas or greater power to provide the desired service.

(d) The use of vertical or horizontal plane polarization or right-hand or left-hand rotating (circular) polarization may be used to minimize the hazard of harmful interference between systems. The Commission reserves the right to specify the polarization to be used.

(e) The power gain compared to an isotropic antenna and the directive properties of the transmitting and receiving antennas proposed to be employed, as well as the geometric distribution of the transmitting and receiving points, shall be supplied with each application for a new ITFS fixed station or for changes in the antenna facilities of an existing station.

[28 FR 13731, Dec. 14, 1963, as amended at 48 FR 9012, Mar. 3, 1983; 49 FR 32596, Aug. 15, 1984; 50 FR 26761, June 28, 1985; 52 FR 3806, Feb. 6, 1987; 58 FR 44951, Aug. 25, 1993; 63 FR 65118, Nov. 25, 1998; 65 FR 46622, July 31, 2000]

**§ 74.938 Transmission standards.**

The width of an ITFS channel is 6 MHz. However, the licensee may sub-channelize its authorized bandwidth, provided that digital modulation is employed and the aggregate power does not exceed the authorized power for the channel, and may utilize all or a portion of its authorized bandwidth for ITFS response stations authorized pursuant to § 74.939. The licensee may also, jointly with other licensees, transmit utilizing bandwidth in excess of its authorized bandwidth, provided that digital modulation is employed, all power spectral density requirements set forth in this part are met and the out-of-band emissions restrictions set forth in § 74.936 are met at the edges of the channels employed.

[63 FR 65119, Nov. 25, 1998]

**§ 74.939 ITFS response stations.**

(a) An ITFS response station is authorized to provide communication by

voice, video and/or data signals with its associated ITFS response station hub or associated ITFS station. An ITFS response station may be operated only by the licensee of the ITFS station, by any person or entity authorized by the ITFS licensee to receive point-to-multipoint transmissions over its channels, by any lessee of excess capacity, or by a subscriber of any lessee of excess capacity. The authorized channel may be divided to provide distinct subchannels for each of more than one response station, provided that digital modulation is employed and the aggregate power does not exceed the authorized power for the channel. An ITFS response station may also, jointly with other licensees, transmit utilizing bandwidth in excess of that authorized to the station, provided that digital modulation is employed, all power spectral density requirements set forth in this part are met, and the out-of-band emission restrictions set forth in § 74.936 or paragraph (k) of this section are complied with.

(b) ITFS response stations that utilize the 2150–2162 MHz band pursuant to § 74.902(f), the 2500–2686 MHz band, and/or the 125 kHz channels identified in paragraph (j) of this section may be installed and operated without an individual license, to communicate with a response station hub, provided that the conditions set forth in paragraph (g) of this section are met and that ITFS response stations' technical parameters are consistent with all applicable rules in this part and with the terms and conditions set out in the Commission's *Declaratory Ruling and Order*, 11 FCC Rcd 18839 (1996).

(c) An applicant for a response station hub license, or for modification thereto, shall:

(1) File FCC Form 331 with the Commission in Washington, DC, and certify on that form that it has complied with the requirements of paragraphs (c)(2) and (d) of this section and that the interference data submitted under paragraph (d) of this section is complete and accurate. Failure to certify compliance and to comply completely with the requirements of paragraphs (c)(2) and (d) of this section shall result in

dismissal of the application or revocation of the response station hub license, and may result in imposition of a monetary forfeiture; and

(2) Submit the following (see §21.902(m) for permissible formats and media) to the Commission's Reference Room:

(i) The data files required by Appendix D (as amended) to the *Report and Order* in MM Docket 97-217, FCC 98-231, "Methods For Predicting Interference From Response Station Transmitters And To Response Station Hubs And For Supplying Data on Response Station Systems"; and

(ii) The demonstrations and certifications required by paragraph (d) of this section.

(d) An applicant for a response station hub license shall prepare the following:

(1) A demonstration describing the system channel plan, to the extent that such information is not contained in the data file required in (c)(2)(i) of this section; and

(2) A demonstration that:

(i) The proposed response station hub is within the protected service area, as defined in §21.902(d)(1) of this chapter, of the ITFS station(s) whose channels will be used for communications to the response station hub or, in the case of an application for response stations to utilize one or more of the 125 kHz response channels, the response station hub is within the protected service area of the station authorized to utilize the associated channel(s); and

(ii) The entire proposed response service area is within the protected service area of the ITFS station(s) whose channels will be used for communications to the response station hub or, in the alternative, the applicant may demonstrate that the licensee of any cochannel protected service area which is overlapped by the proposed response service area has consented to such overlap. In the case of an application for response stations to utilize one or more of the 125 kHz response channels, such demonstration shall establish that the response service area is entirely within the protected service area of the station authorized to utilize the associated channel(s), or, in the alternative, that the

licensee entitled to any cochannel protected service area which is overlapped by the proposed response service area has consented to such overlap; and

(iii) The combined signals of all simultaneously operating ITFS response stations within all response service areas and oriented to transmit towards their respective response station hubs and all cochannel ITFS stations and booster stations licensed to or applied for by the applicant will not generate a power flux density in excess of  $-73$  dBW/m<sup>2</sup> (or the appropriately adjusted value based on the actual bandwidth used if other than 6 MHz, see §74.903(a)(6)(i)) outside the boundaries of the applicant's protected service area, as measured at locations for which there is an unobstructed signal path, except to the extent that consent of affected licensees has been obtained or consents have been granted pursuant to paragraph (d)(3)(ii) of this section to an extension of the response service area beyond the boundaries of the protected service area; and

(iv) The combined signals of all simultaneously operating ITFS response stations within all response service areas and oriented to transmit towards their respective response station hubs, and all cochannel ITFS stations and booster stations licensed to or applied for by the applicant, will result in a desired to undesired signal ratio of at least 45 dB (or the appropriately adjusted value based on the actual bandwidth used if other than 6 MHz, see §74.903(a)(6)(ii)):

(A) Within the protected service area of any authorized or previously-proposed cochannel MDS or ITFS station with a 56.33 km (35 mile) protected service area with center coordinates located within 160.94 km (100 miles) of the proposed response station hub; and

(B) Within the booster service area of any cochannel booster station entitled to such protection pursuant to §§21.913(f) of this chapter or 74.985(f) and located within 160.94 km (100 miles) of the proposed response station hub; and

(C) At any registered receive site of any authorized or previously-proposed cochannel ITFS station or booster station located within 160.94 km (100 miles) of the proposed response station

hub, or, in the alternative, that the licensee or applicant for such cochannel station or hub consents to the application; and

(v) The combined signals of all simultaneously operating ITFS response stations within all response service areas and oriented to transmit towards their respective response station hubs, and all cochannel ITFS stations and booster stations licensed to or applied for by the applicant, will result in a desired to undesired signal ratio of at least 0 dB (or the appropriately adjusted value based on the actual bandwidth used if other than 6 MHz, see § 74.903(a)(6)(iii)):

(A) Within the protected service area of any authorized or previously-proposed adjacent channel MDS or ITFS station with a 56.33 km (35 mile) protected service area with center coordinates located within 160.94 km (100 miles) of the proposed response station hub; and

(B) Within the booster service area of any adjacent channel booster station entitled to such protection pursuant to §§ 21.913(f) of this chapter or 74.985(f) and located within 160.94 km (100 miles) of the proposed response station hub; and

(C) At any registered receive site of any authorized or previously-proposed adjacent channel ITFS station or booster station located within 160.94 km (100 miles) of the proposed response station hub, or, in the alternative, that the licensee of or applicant for such adjacent channel station or hub consents to such application; and

(vi) The combined signals of all simultaneously operating ITFS response stations within all response service areas and oriented to transmit toward their respective response station hub and all cochannel ITFS stations and booster stations licensed to or applied for by the applicant will comply with the requirements of §§ 21.909(i) of this chapter and paragraph (i) of this section.

(3) [Reserved]

(4) A certification that the application has been served upon

(i) The holder of any cochannel or adjacent channel authorization with a protected service area which is overlapped by the proposed response service area;

(ii) The holder of any cochannel or adjacent channel authorization with a protected service area that adjoins the applicant's protected service area;

(iii) The holder of a cochannel or adjacent channel authorization for any BTA or PSA inside whose boundaries are locations for which there is an unobstructed signal path for combined signals from within the response station hub applicant's protected service area; and

(iv) Every licensee of, or applicant for, any cochannel or adjacent channel, authorized or previously-proposed, incumbent MDS station with a 56.33 km (35 mile) protected service area with center coordinates located within 160.94 km (100 miles) of the proposed response station hub; and

(v) Every licensee of, or applicant for, any cochannel or adjacent channel, authorized or previously-proposed ITFS station (including any booster station or response station hub) located within 160.94 km (100 miles) of the proposed response station hub.

(e) Applications for response station hub licenses shall be deemed minor change applications and, except as provided in § 74.911(e), may be filed at any time. Notwithstanding any other provision of part 74, applications for response station hub licenses meeting the requirements of paragraph (c) of this section shall cut-off applications that are filed on a subsequent day for facilities that would cause harmful electromagnetic interference to the proposed response station hubs. A response station hub shall not be entitled to protection from interference caused by facilities proposed on or prior to the day the application for the response station hub license is filed. Response stations shall not be required to protect from interference facilities proposed on or after the day the application for the response station hub license is filed.

(f) Notwithstanding the provisions of § 74.912 and except as provided by § 74.911(e), any petition to deny an application for a response station hub license shall be filed no later than the sixtieth (60th) day after the date of public notice announcing the filing of such application or major amendment thereto. Except as provided in

§ 74.911(e), an application for a response station hub license that meets the requirements of this section shall be granted on the sixty-first (61st) day after the Commission shall have given public notice of the acceptance for filing of it, or of a major amendment to it if such major amendment has been filed, unless prior to such date either a party in interest timely files a formal petition to deny or for other relief pursuant to § 74.912, or the Commission notifies the applicant that its application will not be granted. Where an application is granted pursuant to the provisions of this paragraph, the conditional licensee or licensee shall maintain a copy of the application at the response station hub until such time as the Commission issues a response station hub license.

(g) An ITFS response station hub license establishing a response service area shall be conditioned upon compliance with the following:

(1) No ITFS response station shall be located beyond the response service area of the response station hub with which it communicates; and

(2) No ITFS response station shall operate with a transmitter output power in excess of 2 watts; and

(3) No response station shall operate with an EIRP in excess of that specified in the application for the response station hub for the particular regional class of characteristics with which the response station is associated, and such response station shall not operate with an EIRP in excess of  $33 \text{ dBW} + 10\log(X/6) \text{ dBW}$ , where  $X$  is the channel width in MHz, and

(4) Each response station shall employ a transmission antenna oriented towards the response station hub with which the response station communicates and such antenna shall be no less directive than the worst-case outer envelope pattern specified in the application for the response station hub for the regional class of characteristics with which the response station is associated; and

(5) The combined out-of-band emissions of all response stations using all or part of one or multiple contiguous 6 MHz channels and employing digital modulation shall comply with § 74.936(e). The combined out-of-band

emissions of all response stations using all or part of one or multiple contiguous 125 kHz channels shall comply with paragraph (k) of this section. However, should harmful interference occur as a result of emissions outside the assigned channel, additional attenuation may be required; and

(6) The response stations transmitting simultaneously at any given time within any given region of the response service area utilized for purposes of analyzing the potential for interference by response stations shall conform to the numerical limits for each class of response station proposed in the application for the response station hub license. Notwithstanding the foregoing, where a response station hub licensee subchannelizes pursuant to § 74.939(a) and limits the maximum EIRP emitted by any individual response station proportionately to the fraction of the channel that the response station occupies, the licensee may operate simultaneously on each subchannel the number of response stations specified in the license. Moreover, the licensee of a response station hub may alter the number of response stations of any class operated simultaneously in a given region, without prior Commission authorization, provided that the licensee:

(i) Files with the Commission (see § 21.902(m) for permissible format(s) and media) a demonstration indicating the number of response stations of such class(es) to be operated simultaneously in such region and a certification that it has complied with the requirements of paragraphs (g)(6)(ii) and (iii) of this section and that the interference data submitted pursuant to paragraph (g)(6)(ii) is complete and accurate; and

(ii) Provides the Commission's Reference Room (see § 21.902(m) for permissible formats and media) with an update of the previously-filed response station data and with a demonstration that such alteration will not result in any increase in interference to the protected service area or protected receive sites of any existing or previously-proposed, cochannel or adjacent channel MDS or ITFS station or booster station, to the protected service area of any MDS Basic Trading Area or Partitioned Service Area licensee entitled to

protection pursuant to paragraph (d)(3) of this section, or to any existing or previously-proposed, cochannel or adjacent channel response station hub, or response station under § 21.949 or § 74.949 of this chapter; or that the applicant for or licensee of such facility has consented to such interference; and

(iii) Serves a copy of such demonstration and certification upon each party entitled to be served pursuant to paragraph (d)(3) of this section; and

(7) Where an application is granted under this section, if a facility operated pursuant to that grant causes harmful, unauthorized interference to any cochannel or adjacent channel facility, it must promptly remedy the interference or immediately cease operations of the interfering facility, regardless of whether any petitions to deny or for other relief were filed against the application during the application process. The burden of proving that a facility operated under this section is not causing harmful, unauthorized interference lies on the licensee of the alleged interfering facility, following the filing of a documented complaint of interference by an affected party; and

(8) In the event any MDS or ITFS receive site suffers interference due to block downconverter overload, the licensee of each non-co/adjacent response station hub with a response service area within five miles of such receive site shall cooperate in good faith to expeditiously identify the source of the interference. Each licensee of a response station hub with an associated response station contributing to such interference shall bear the joint and several obligation to promptly remedy all block downconverter overload interference at any ITFS registered receive site or at any receive site within an MDS or ITFS protected service area applied for prior to the submission of the application for the response station hub license, regardless of whether the receive site suffering the interference was constructed prior to or after the construction of the response station(s) causing the downconverter overload; provided, however, that the licensee of the registered ITFS receive site or the MDS or ITFS protected service area must co-

operate fully and in good faith with efforts by the response station hub licensee to prevent interference before constructing response stations and/or to remedy interference that may occur. In the event that the associated response station(s) of more than one response station hub licensee contribute(s) to block downconverter interference at an MDS or ITFS receive site, such hub licensees shall cooperate in good faith to remedy promptly the interference.

(h) Applicants must comply with part 17 of this chapter concerning notification to the Federal Aviation Administration of proposed antenna construction or alteration for all hub stations and associated response stations.

(i) Response station hubs shall be protected from cochannel and adjacent channel interference in accordance with the following criteria:

(1) An applicant for any new or modified MDS or ITFS station (including any high-power booster station or response station hub) shall be required to demonstrate interference protection to a response station hub within 160.94 km (100 miles) of the proposed facilities. In lieu of the interference protection requirements set forth in §§ 21.902(i) of this chapter, 21.938(b)(3) of this chapter and 74.903, such demonstration shall establish that the proposed facility will not increase the effective power flux density of the undesired signals generated by the proposed facility and any associated main stations, booster stations or response stations at the response station hub antenna for any sector. In lieu of the foregoing, an applicant for a new MDS or ITFS main station license or for a new or modified response station hub or booster license may demonstrate that the facility will not increase the noise floor at a reception antenna of the response station hub by more than 1 dB for cochannel signals and 45 dB for adjacent channel signals, provided that:

(i) The entity submitting the application may only invoke this alternative once per response station hub reception sector; or

(ii) The licensee of the affected response station hub may consent to receive a certain amount of interference at its hub.

(2) Commencing upon the filing of an application for an ITFS response station hub license and until such time as the application is dismissed or denied or, if the application is granted, a certification of completion of construction is filed on FCC Form 330A, the ITFS station whose channels are being utilized shall be entitled both to interference protection pursuant to §§ 21.902(i) and 21.938(b)(3) of this chapter and 74.903, and to protection of the response station hub pursuant to the preceding paragraph. Unless the application for the response station hub license specifies that the same frequencies also will be employed for digital and/or analog point-to-multipoint transmissions by ITFS stations and/or ITFS booster stations, upon the submission of a certification of completion of construction of an ITFS response station hub on FCC Form 330A where the channels of an ITFS station are being utilized as response station transmit frequencies, the ITFS station whose channels are being utilized for response station transmissions shall no longer be entitled to interference protection pursuant to §§ 21.902(i) and 21.938(b)(3) of this chapter and 74.903 within the response service area with regard to any portion of any 6 MHz channel employed solely for response station communications. Upon the submission of a certification of completion of construction of an ITFS response station hub on FCC Form 330A where the channels of an ITFS station are being utilized for response station transmissions and the application for the response station hub license specifies that the same frequencies will be employed for point-to-multipoint transmissions, the ITFS station whose channels are being utilized shall be entitled both to interference protection pursuant to §§ 21.902(i) and 21.938(b)(3) of this chapter and 74.903, and to protection of the response station hub pursuant to the preceding provisions of this paragraph.

(j) ITFS response stations may operate on either all or part of a 6 MHz channel assigned a licensee, on any 125 kHz channel assigned a licensee, or on adjacent frequencies authorized to multiple licensees where such stations are operated jointly. The 125 kHz chan-

nels listed in the following table shall be assigned to the licensees of MDS and ITFS stations for use at response stations, or for licensing for point-to-multipoint transmissions pursuant to paragraph (l) of this section, in accordance with the table. The specified 125 kHz frequency channel may be subdivided to provide a distinct operating frequency for each of more than one station, or may be combined with adjacent channels, provided that digital modulation is employed in accordance with paragraph (a) of this section. The specified 125 kHz frequency channels also may be exchanged with the licensee of another MDS or ITFS station for use of another 125 kHz channel assigned to the other licensee.

Frequency (MHz)	Main channel designation	125 kHz channel designation
2686.0625	A1	I1
2686.1875	B1	I2
2686.3125	C1	I3
2686.4375	D1	I4
2686.5625	E1	I5
2686.6875	F1	I6
2686.8125	G1	I7
2686.9375	H1	I8
2687.0625	A2	I9
2687.1875	B2	I10
2687.3125	C2	I11
2687.4375	D2	I12
2687.5625	E2	I13
2687.6875	F2	I14
2687.8125	G2	I15
2687.9375	H2	I16
2688.0625	A3	I17
2688.1875	B3	I18
2688.3125	C3	I19
2688.4375	D3	I20
2688.5625	E3	I21
2688.6875	F3	I22
2688.8125	G3	I23
2688.9375	H3	I24
2689.0625	A4	I25
2689.1875	B4	I26
2689.3125	C4	I27
2689.4375	D4	I28
2689.5625	E4	I29
2689.6875	F4	I30
2689.8125	G4	I31

(k) 125 kHz wide response channels shall be subject to the following requirements: The 125 kHz wide channel shall be centered at the assigned frequency. If amplitude modulation is used, the carrier shall not be modulated in excess of 100%. If frequency modulation is used, the deviation shall not exceed # 25 kHz. Any emissions outside the channel shall be attenuated at the channel edges at least 35 dB below

peak output power when analog modulation is employed or 35 dB below licensed average output power when digital modulation is employed (or, when subchannels are used, the appropriately adjusted value based upon the ratio of the channel-to-subchannel bandwidths). Any emissions more than 125 kHz from either channel edge, including harmonics, shall be attenuated at least 60 dB below peak output power when analog modulation is employed, or at least 60 dB below licensed average output power when digital modulation is employed (or, when subchannels are used, the appropriately adjusted value based upon the ratio of the channel-to-subchannel bandwidths). Notwithstanding the foregoing, in situations where adjacent channel licensees jointly transmit over more than one channel utilizing digital modulation, the maximum out-of-band power shall be attenuated at the edges of those combined channels at least 35 dB relative to the licensed average power level of each channel. Emissions more than 125 kHz from either edge of the combined channels, including harmonics, shall be attenuated at least 60 dB below peak analog power or licensed average digital power of each channel, as appropriate. Different types of emissions may be authorized for use on 125 kHz wide channels if the applicant describes fully the modulation and bandwidth desired, and demonstrates that the modulation selected will cause no more interference than is permitted under this paragraph. Greater attenuation may be required if interference is caused by out-of-channel emissions.

(l) Any MDS or ITFS conditional licensee or licensee who wishes to use one or more of its associated I channels for point-to-multipoint transmissions in a system with one or more authorized, or previously- or simultaneously-proposed, response station hub(s) shall:

(1) File FCC Form 331 with the Commission, filing with Mellon Bank for I channels associated with an MDS station, and filing with the Commission in Washington, DC for I channels associated with an ITFS station. The application shall specify which of the associated I channels is/are intended for point-to-multipoint transmissions, or whether an I channels station already

authorized for point-to-multipoint transmissions is being modified. The applicant also shall certify on the appropriate form that it has complied with the requirements of paragraph (l)(2) of this section. Failure to certify compliance and to comply completely with the requirements of paragraph (l)(2) of this section shall result in dismissal of the application or revocation of the authorization for point-to-multipoint transmissions on the relevant I channels, and may result in imposition of a monetary forfeiture. Modification applications to convert I channels associated with ITFS stations to point-to-multipoint transmissions shall be considered minor changes for purposes of § 74.911. These applications shall be subject to the procedures set forth in § 21.27(d) of this chapter or § 74.911(e), as appropriate; and

(2) Submit to the Commission's Reference Room (see § 21.902(m) for permissible format(s) and media) the following:

(i) Duplicates of the Form 331 filed with Mellon Bank or with the Commission, as appropriate; and

(ii) The interference analyses required to be performed under § 21.902 of this chapter, and § 21.938 of this chapter where appropriate, including the provisions of §§ 21.909 of this chapter, 21.913 of this chapter, 74.939 and 74.985 regarding the protection of response station hubs and booster service areas from harmful electromagnetic interference, and including protection of stations authorized pursuant to §§ 21.949 of this chapter and 74.949 from harmful electromagnetic interference, using the appropriately adjusted interference protection values based upon the ratio of the bandwidths in use; and

(3) Except as provided in § 21.27(d) of this chapter or § 74.911(e), as appropriate, be permitted to file applications to convert associated I channels to point-to-multipoint transmissions at any time. I channels used for point-to-multipoint transmissions shall be afforded interference protection in the same manner as other point-to-multipoint MDS and ITFS facilities, with appropriate adjustment of the interference protection values for bandwidth. Notwithstanding any other provision of parts 21 and 74, applications

to convert associated I channels to point-to-multipoint transmissions, meeting the requirements of paragraphs (l) (1) and (2) of this section, shall cut-off applications that are filed on a subsequent day for facilities that would cause harmful electromagnetic interference to the proposed point-to-multipoint operations; and

(4) Notwithstanding the provisions of §§21.30(a)(4) of this chapter and 74.912, and except as provided in §21.27(d) of this chapter or §74.911(e), as appropriate, be subject to a petition to deny an application to convert associated I channels to point-to-multipoint transmissions that is filed no later than the sixtieth (60th) day after the date of public notice announcing the filing of such application or major amendment thereto. Notwithstanding §§21.31 of this chapter and 74.911(d), and except as provided in §21.27(d) of this chapter or §74.911(e), as appropriate, an application to convert associated I channels to point-to-multipoint transmissions that meets the requirements of this paragraph shall be granted on the sixty-first (61st) day after the Commission shall have given public notice of the acceptance for filing of it, or of a major amendment to it if such major amendment has been filed, unless prior to such date either a party in interest timely files a formal petition to deny or for other relief pursuant to §21.30(a) of this chapter or §74.912, or the Commission notifies the applicant that its application will not be granted. Where an application is granted pursuant to the provisions of this paragraph, the conditional licensee or licensee shall maintain a copy of the application at the I channels station until such time as the Commission issues an I channels station license for point-to-multipoint transmissions; and

(5) Where an application is granted under this paragraph, and a facility operated pursuant to that grant causes harmful, unauthorized interference to any cochannel or adjacent channel facility, promptly remedy the interference or immediately cease operations of the interfering facility, regardless of whether any petitions to deny or for other relief were filed against the application during the application process. The burden of prov-

ing that a facility operated under this paragraph is not causing harmful, unauthorized interference lies on the licensee of the alleged interfering facility, following the filing of a documented complaint of interference by an affected party.

(6) A certification that copies of the materials set forth in paragraph (l)(2) of this section have been served upon the licensee or conditional licensee of each station (including each response station hub and booster station) required to be studied pursuant to paragraph (l)(3) of this section, and upon any affected holder of a Basic Trading Area or Partitioned Service Area authorization pursuant to paragraph (l)(2) of this section.

(m) A response station may be operated unattended. The overall performance of the response station transmitter shall be checked by the hub licensee as often as necessary to ensure that it is functioning in accordance with the requirements of the Commission's rules. The licensee of a response station hub is responsible for the proper operation of all associated response station transmitters. Each response station hub licensee is responsible for maintaining, and making available to the Commission upon request, a list containing all customer names and addresses, plus the technical parameters (EIRP, emission, bandwidth, antenna pattern/height/orientation/polarization) pertinent to each class of response station within the response service area.

(n) The transmitting apparatus employed at ITFS response stations shall have received type certification.

(o) An ITFS response station shall be operated only when engaged in communications with its associated ITFS response station hub or ITFS station or booster station, or for necessary equipment or system tests and adjustments. Upon initial installation, and upon relocation and reinstallation, a response station transmitter shall be incapable of emitting radiation unless, and until, it has been activated by reception of a signal from the associated ITFS station or booster station. A hub station licensee shall be capable of remotely de-activating any and all response station transmitters within its RSA by

means of signals from the associated ITFS station or booster station. Radiation of an unmodulated carrier and other unnecessary transmissions are forbidden.

(p) All response stations utilizing an EIRP greater than 18 dBW shall be installed by the associated hub licensee or by the licensee's employees or agents. For the purposes of this section, all EIRP dBW values assume the use of a 6 MHz channel. For channel bandwidths other than 6 MHz, the EIRP dBW values should be adjusted up (channel >6 MHz) or down (channel <6 MHz) by  $10 \log(X/6)$  dBW, where X is the channel width in MHz. For response stations located within 1960 feet of an ITFS receive site registered and built prior to the filing of the application for the hub station license, the hub licensee must notify the licensee of the ITFS receive site at least one business day prior to the activation of these response stations. The notification must contain, for each response station to be activated, the following information: name and telephone number of a contact person who will be responsible for coordinating the resolution of any interference problems; street address; geographic coordinates to the nearest second; channels/subchannels (transmit only); and transmit antenna pattern, EIRP, orientation and height AMSL. (If transmit antenna pattern, EIRP, orientation or height AMSL are not known with specificity at the time of notification, the hub licensee may, instead, specify the worst-case values for the class of response station being activated.) Such notice to the ITFS licensee shall be given in writing by certified mail unless the ITFS licensee has requested delivery by email or facsimile. The ITFS licensee may waive the notification requirement on a site-specific basis or on a system-wide basis. The notification provisions of this section shall not apply if:

- (1) The response station will operate at an EIRP no greater than -6 dBW; or
- (2) The response station will operate at an EIRP greater than -6 dBW and no more than 18 dBW and:

- (i) The channels being received at the ITFS site are neither the same as, nor directly adjacent to, the channel(s) to

be transmitted from the response station; and

- (ii) The hub station licensee has replaced, at its expense, the frequency downconverters used at all ITFS receive sites registered and constructed prior to the filing of the hub station application which are within 1960 feet of the hub station's response service area; and

- (iii) The downconverters, at a minimum, conform to the following specifications:

- (A) A frequency of operation covering the 2150–2162 MHz band or the 2500–2686 MHz band; and

- (B) A third-order intercept point of 30 dBm; and

- (C) A conversion gain of 32 dB, or the same conversion gain as the existing ITFS downconverter, whichever is least; and

- (D) A noise figure of no greater than 2.5 dB, or no more than 1 dB greater than the noise figure of the existing ITFS downconverter, whichever is greater; and

- (iv) The proposal to upgrade the ITFS downconverter was made in writing and served upon the affected ITFS licensee, conditional licensee or applicant at the same time the application for the response station hub license was served on cochannel and adjacent channel ITFS parties and no objection was made within the 60-day period allowed for petitions to deny the hub station application.

- (q) Interference calculations shall be performed in accordance with Appendix D (as amended) to the *Report and Order* in MM Docket 97-217, FCC 98-231, "Methods For Predicting Interference From Response Station Transmitters and To Response Station Hubs and For Supplying Data on Response Station Systems." (Note: This document is subject to change and will be updated/amended as needed without prior notification. Applicants should always utilize the most current version of the document, as found at the Commission's internet web site, <http://www.fcc.gov/mmb/vsd/files/methodology.doc>). Compliance with out-of-

band emission limitations shall be established in accordance with § 21.908(e) of this chapter.

[63 FR 65119, Nov. 25, 1998, as amended at 64 FR 63740, Nov. 22, 1999; 65 FR 46623, July 31, 2000]

**§ 74.949 Individually licensed 125 kHz channel ITFS response stations.**

(a) The provisions of § 74.939(a), (e), (h), (j), (k), (n) and (o) shall also apply with respect to the authorization of 125 kHz channel ITFS response stations not authorized under a response station hub license. The applicant shall also comply with the requirements of § 74.903 and § 21.938 of this chapter where appropriate, as well as with the provisions of §§ 21.909 and 21.913 of this chapter and of §§ 74.939 and 74.985 regarding the protection of response station hubs and booster (and primary) service areas from harmful electromagnetic interference, using the appropriately adjusted interference protection values based upon the ratios of the bandwidths involved.

(b) An application for a license to operate a new or modified 125 kHz channel ITFS response station not under a response station hub license shall be filed with the Commission in Washington, D.C., on FCC Form 331. The applicant shall supply the following information and certification on that form for each response station:

(1) The geographic coordinates and street address of the ITFS response station transmitting antenna; and

(2) The manufacturer's name, type number, operating frequency, and power output of the proposed ITFS response station transmitter; and

(3) The type of transmitting antenna, power gain, azimuthal orientation and polarization of the major lobe of radiation in degrees measured clockwise from True North; and

(4) A sketch giving pertinent details of the ITFS response station transmitting antenna installation including ground elevation of the transmitter site above mean sea level; overall height above ground, including appurtenances, of any ground-mounted tower or mast on which the transmitting antenna will be mounted or, if the tower or mast is or will be located on an existing building or other manmade

structure, the separate heights above ground of the building and the tower or mast including appurtenances; the location of the tower or mast on the building; the location of the transmitting antenna on the tower or mast; and the overall height of the transmitting antenna above ground.

(5) A certification that all licensees and applicants appropriately covered under the provisions of paragraph (a) of this section have been served with copies of the application.

(c) Each ITFS response station licensed under this section shall comply with the following:

(1) No ITFS response station shall be located beyond the protected service area of the ITFS station with which it communicates; and

(2) No ITFS response station shall operate with a transmitter output power in excess of 2 watts; and

(3) No ITFS response station shall operate at an excess of 16 dBW EIRP.

(d) During breaks in communications, the unmodulated carrier frequency shall be maintained within 35 kHz of the assigned frequency at all times. Adequate means shall be provided to insure compliance with this rule.

(e) Each ITFS response station shall employ a directive transmitting antenna oriented towards the transmitter site of the associated ITFS station or towards the response station hub with which the ITFS response station communicates. The beamwidth between half power points shall not exceed 15° and radiation in any minor lobe of the antenna radiation pattern shall be at least 20 dB below the power in the main lobe of radiation.

(f) A response station may be operated unattended. The overall performance of the response station transmitter shall be checked by the licensee of the station or hub receiving the response signal, or by the licensee's employees or agents, as often as necessary to ensure that the transmitter is functioning in accordance with the requirements of the Commission's rules. The licensee of the station or hub receiving the response signal is responsible for the proper operation of the response station and must have reasonable and timely access to the response station